

TRACTION APPARATUS FOR THE PENIS

Related Application

This application claims foreign priority from Application No. 03380101.0, which was filed in Europe through the Spanish Patent Office on April 28, 2003, and which application is incorporated herein by reference in its 5 entirety.

Field Of The Invention

The present invention relates to the field of traction devices and, more particularly, to an apparatus for applying traction to the human penis.

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Background Of The Invention

Since about 1905 it has been known to use tissue traction for stretching parts of the body, and in approximately 1957 Neuman performed tissue expansion in practice. Traction of fingers was first described by the American 15 investigator Cowen who, at the annual U.S. Congress of Orthopedic Surgery in 1977, spoke about stretching fingers to normal length in children who had been born with too short fingers. On the basis of his clinical work Cowen reported that blood vessels and all other tissues on the extremity are stretched, provided that the rate of traction does not exceed the rate of nerve 20 regeneration.

Animal experiments have shown that the epidermis responds to constant expansion or tension by increasing cell division activity in the basal layer, a process which reaches a maximum rate within about 24-48 hours and typically normalizes within 6 days. These animal experiments have also 25 shown that expansion of the dermis tends to reduce its thickness slightly. However, normalization of the thickness of the dermis following expansion has been reported after about two years.

Summary Of The Invention

With the foregoing in mind, the present invention advantageously provides an apparatus and a method of applying traction to the male penis. It should be understood that the apparatus is preferably intended for use with a
5 human penis which includes normal parts such as a shaft, a glans, and a corona glandis.

The apparatus comprises at least one base member having a generally arcuate periphery of sufficient dimension for the patient to insert the penis in the apparatus. More preferably, the base member comprises an annular base
10 member having generally circular periphery and an opening of sufficient dimension for the patient to insert the penis therethrough. At least one base member connector is positioned on the at least one base member. The base member connector serves to connect with a plurality of extension members which will extend distally from the base member. At least one support
15 member is connected with the plurality of extension members and is thereby distally spaced apart from the at least one base member, the at least one support member having a surface for thereon supporting a distal portion of the penis. A retaining collar is connected to the support member adjacent the support surface and is positioned so as to at least partially encircle the shaft of
20 the penis and engage the corona glandis thereby securing the distal penis to the support member.

From the start, a method of the invention includes providing an annular base member having generally circular periphery and an opening of sufficient dimension for the patient to insert the penis in the apparatus. The method
25 then involves hingedly connecting two base member connectors to and extending from the annular base member, and connecting a plurality of extension members to the two base member connectors so that the plurality of extension members extends away from the two base member connectors. A support member is positioned connected to the plurality of extension
30 members so as to be a distance spaced apart from the annular base member.

- The support member has an arcuate support surface for thereon supporting the penis. The method then calls for inserting the patient's penis through the annular base member so as to rest a distal portion of the shaft upon the arcuate support surface, and positioning a retaining collar adjacent the
- 5 support surface adjustably connected to the support member to secure the distal penis to the support member by at least partially surrounding the shaft of the patient's penis, or by engaging the corona glandis. Finally, the method continues by applying traction to the penis by increasing the spaced apart distance between the annular base member and the support member.
- 10 Thereafter, the method stops.

Brief Description Of The Drawings

- Some of the features, advantages, and benefits of the present invention having been stated, others will become apparent as the description
- 15 proceeds when taken in conjunction with the accompanying drawings, presented for solely for exemplary purposes and not with intent to limit the invention thereto, and in which:

- FIG. 1 is an overall top plan view of the apparatus of the present invention in use to apply traction to a patient's penis;
- 20 FIG. 2 is a bottom plan view of an apparatus according to FIG. 1 but with additional extension members in use;
- FIG. 3 shows an exploded view of a plurality of extension members for use in the apparatus of FIG. 1;
- 25 FIG. 4 shows a detailed cross sectional view of an embodiment of a base member connector in the apparatus of FIG. 1;
- FIG. 5 depicts a view of the retaining retaining collar of the apparatus when not in use as shown in FIG. 1; and
- FIG. 6 is a flow diagram illustrating a method of the invention of FIG. 1.

Detailed Description of the Preferred Embodiment

The present invention will now be described more fully hereinafter with reference to the accompanying drawings, in which preferred embodiments of the invention are shown. Unless otherwise defined, all technical and scientific

- 5 terms used herein have the same meaning as commonly understood by one of ordinary skill in the art to which this invention pertains. Although methods and materials similar or equivalent to those described herein can be used in the practice or testing of the present invention, suitable methods and materials are described below. Any publications, patent applications, patents, and other
- 10 references mentioned herein are incorporated by reference in their entirety. In case of conflict, the present specification, including any definitions, will control. In addition, the materials, methods and examples given are illustrative in nature only and not intended to be limiting. Accordingly, this invention may be embodied in many different forms and should not be construed as limited to
- 15 the illustrated embodiments set forth herein. Rather, these illustrated embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. Other features and advantages of the invention will be apparent from the following detailed description, and from the claims.

20 FIGS. 1-5 illustrate an apparatus for applying traction to a patient's penis according to the present invention. It should be understood that the present apparatus is preferably intended for use on a penis having normal component parts such as a shaft, a glans, and a corona glandis, although the device may also be applied to abnormally formed organs.

- 25 The apparatus **A** comprises at least one base member **1** having a generally arcuate periphery of sufficient dimension for the patient to insert the penis in the apparatus. More preferably, the base member **1** comprises an annular base member having generally circular periphery and an opening of sufficient dimension for the patient to insert the penis in the apparatus. At
- 30 least one base member connector **2-7** is positioned on the base member **1**. A

plurality of extension members **8-12** is connected with the base member connector and extends distally therefrom. At least one support member **13** is connected with the plurality of extension members **8-12** and is thereby distally spaced apart from the at least one base member **1**, the support member

5 having a support surface for thereon supporting the penis, preferably an arcuate surface. A retaining collar **15** is connected to the support member **13** adjacent the support surface **5** and is positioned so as to at least partially encircle the shaft of the penis thereby securing the distal penis to the support member. The retaining collar **15** may also be adjustably connected to the

10 support member **13** to engage the corona glandis **C** so as to secure the distal penis to the support member. Preferably, the collar **15** functions both by encircling the shaft of the penis, at least partially, and by engaging the corona glandis so as to prevent the distal penis from being withdrawn from contact with the support member **13**. In the invention, the periphery of the at least one

15 base member **1** is preferably approximately complementary to a pubic mound, so that the base member may be worn by a patient comfortably abutting the pubic mound.

The plurality of base member connectors comprises connectors **2-7** extending outwardly from the periphery of the base member and

20 approximately perpendicular to an imaginary diameter of the base member. The base member connector **2-7** most preferably comprises a hinged connector extending outwardly from the generally arcuate periphery of the at least one base member so that an angle of connection of the base member connector **2-7** to the base member may be adjusted, allowing the apparatus to

25 be worn by a patient during his routine daily activities.

As shown in FIG. 4, the base member connector **2-7** is adjustable in length in small increments by turning the piston **4** upon threaded connector **3**. As can be seen, the base member connector comprises a knob **2** having a threaded connector **3** engaged with a complementary threaded piston **4**, the

piston being also slidably disposed within a cylinder 5 at a first cylinder end and held therin by piston cap 6. The cylinder 5 has therein a biasing member 7 which urges against the piston 4, and has at a second cylinder end threads complementary to at least one individual extension member 8 of the plurality 5 of extension members. As shown in FIG. 4, the base member connector 2-7 aids in maintaining a degree of tension in the traction apparatus A by the action of the biasing member 7 against the piston 4 in the cylinder 5.

The plurality of extension members 8-12 includes individual extension members having different lengths, as shown in FIG. 3, wherein are seen long 10 extension members 9, medium length extension members 10, short extension members 11, and very short extension members 12. As shown, extension members 8-12 are preferably threaded, having both male and female threaded connectors for coupling with each other, with the base member connector 2-7, and with the support member 13. Other connection 15 mechanisms may also be employed in the invention, however, for example snap connections or any other mechanisms as known to the skilled. It should be appreciated that in the invention, the plurality of extension members 8-12 comprises a sufficient number of individual extension members to extend the apparatus A to apply traction to the patient's penis by increasing the distance 20 between the base member and the retaining collar.

In the apparatus A, the support surface of the support member 13 comprises a generally curved surface for thereon supporting the patient's penis. More preferably, the support member 13 comprises a generally curved member having at least one dimension approximately equal to an imaginary 25 diameter of the arcuate periphery of the at least one base member. The support member 13 may also comprise first and second ends and a curved surface therebetween, the first and second ends spaced apart a distance approximately equal to an imaginary diameter of the arcuate or circular periphery of the at least one base member 1. The support member may 13

additionally comprise at least one receiver **R** for receiving at least a portion of the retaining collar **15** to thereby secure the retaining collar to the support member.

- The retaining collar **15** preferably comprises a relatively soft and resilient retaining member, as illustrated in FIGS. 1, 2 and 5. The retaining collar **15** comprises an outer, relatively soft retaining member **15a** and an inner elastic member **14**, a detailed view of this arrangement being shown in FIG. 5. The retaining collar **15** preferably includes a tubular outer member **15a** and an elastic inner member **14** extending therethrough, the elastic inner member having first end and a second ends, both of which protrude from the tubular outer member. The retaining collar **15** shown in FIG. 5 may be secured to the support member **13** by adjustably connecting the protruding first and second ends to the at least one support member, by engaging the ends in the receiver **R**, which as shown in FIG. 2 includes two slots cut on an underside of the support member **13**.

- The present invention also includes various method aspects which are shown in the block diagram of FIG. 6. The method is for applying traction to a patient's penis having a shaft, a glans, and a corona glandis. From a start **20**, the method includes providing **22** an annular base member having generally circular periphery and an opening of sufficient dimension for the patient to insert the penis in the apparatus. The method continues by hingedly connecting **24** two base member connectors to and extending from the annular base member, and connecting **26** a plurality of extension members to the two base member connectors so that the plurality of extension members extends away from the two base member connectors. The method also requires positioning **28** a support member connected to the plurality of extension members so as to be a distance spaced apart from the annular base member, the support member having an arcuate support surface for thereon supporting the penis. The method calls for inserting the patient's

- penis 30 through the annular base member so as to rest a distal portion of the shaft upon the arcuate support surface, and positioning 32 a retaining collar adjacent the support surface to at least partially surround the shaft of the patient's penis, the retaining collar adjustably connected to the support
- 5 member to thereby engage the corona glandis thereby securing the distal penis to the support member. Finally, the method includes applying traction 34 to the penis by increasing the spaced apart distance between the annular base member and the support member. Thereafter, the method stops 36. It should be understood, however, that in alternate embodiments of the method,
- 10 applying traction may be continued for a predetermined length of time.

In the drawings and specification, there have been disclosed a typical preferred embodiment of the invention, and although specific terms are employed, the terms are used in a descriptive sense only and not for purposes of limitation. The invention has been described in considerable

- 15 detail with specific reference to these illustrated embodiments. It will be apparent, however, that various modifications and changes can be made within the spirit and scope of the invention as described in the foregoing specification and as defined in the appended claims.